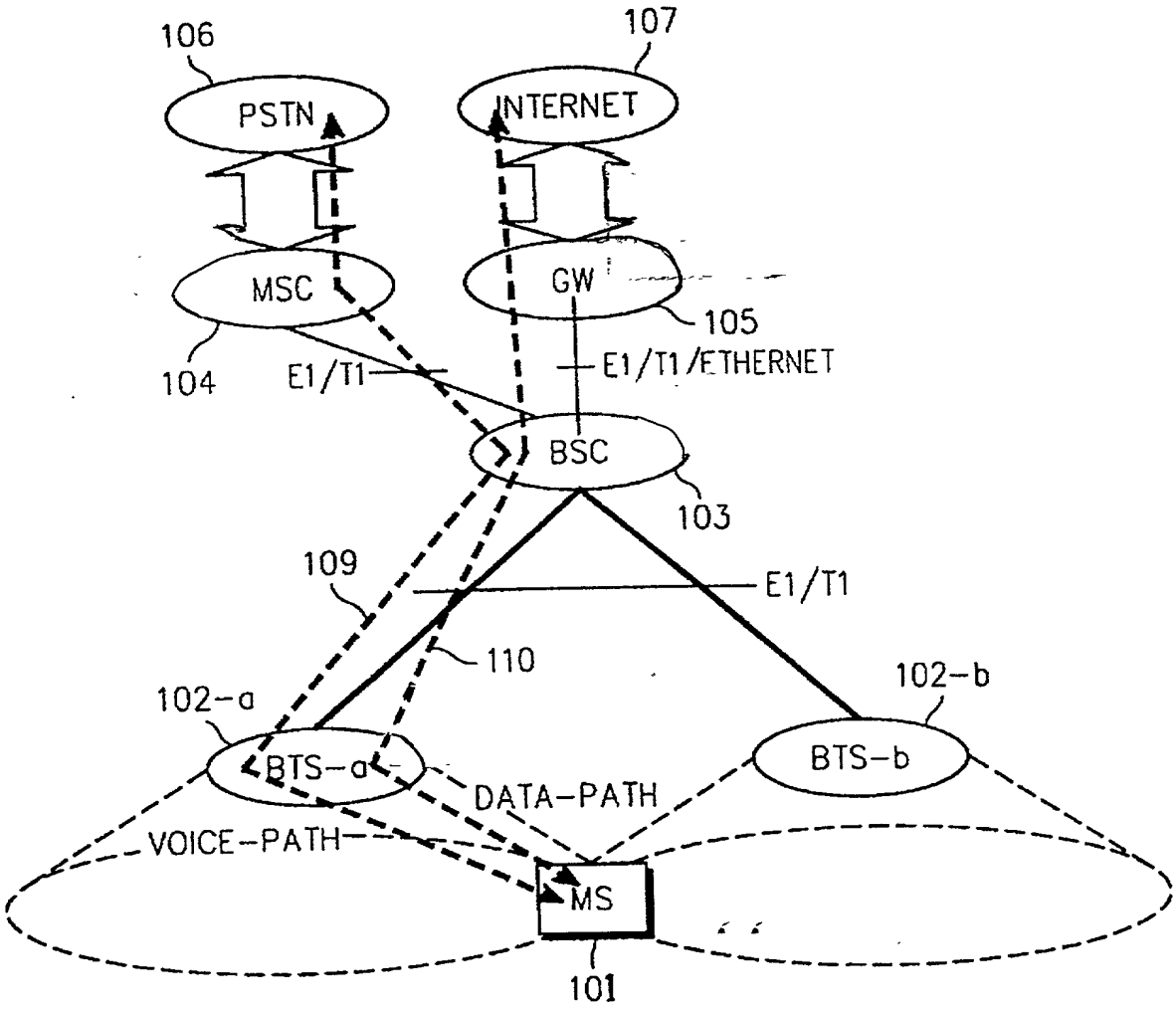

FIG.1

(PRIOR ART)

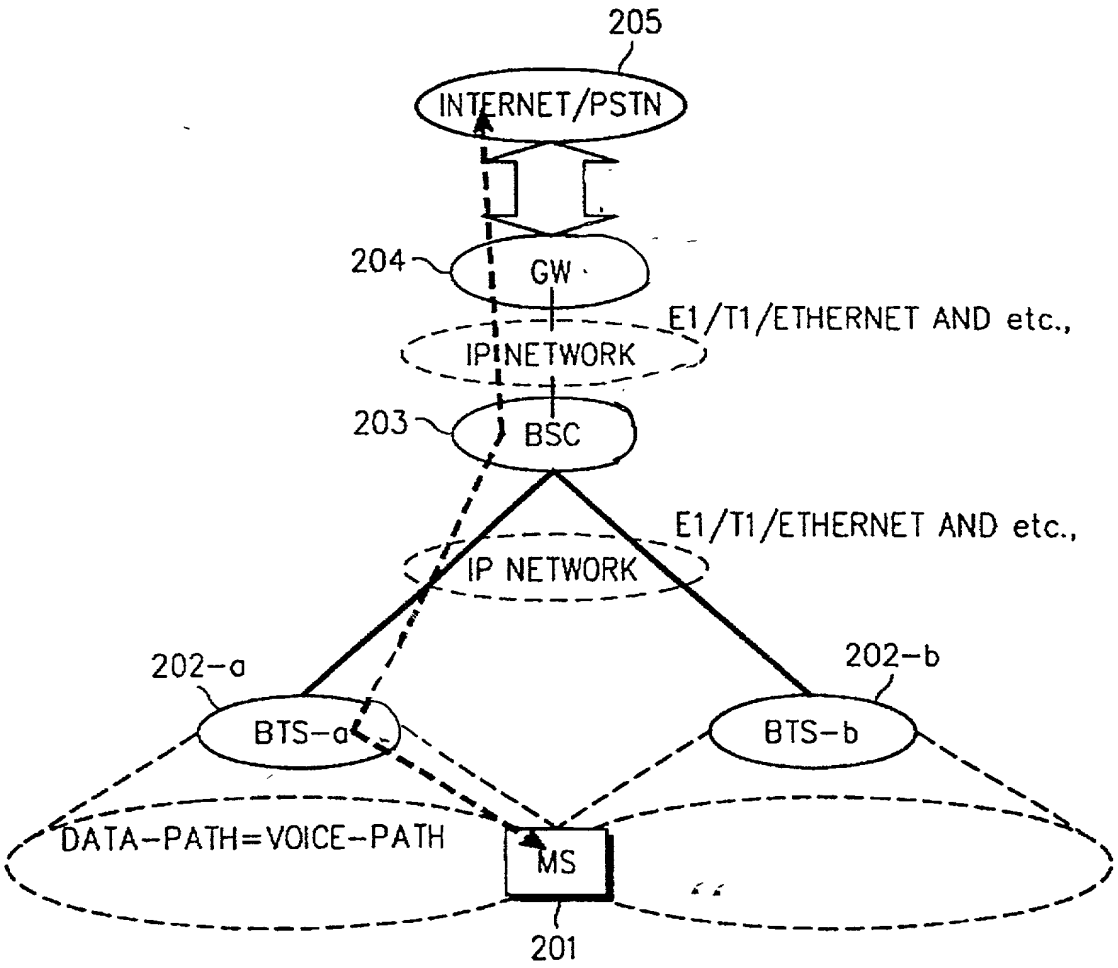
205
INTERNET/PSTN
204
GW
E1/T1/ETHERNET AND etc.,
IP NETWORK
203
BSC
E1/T1/ETHERNET AND etc.,
IP NETWORK
202-a
202-b
BTS-a
BTS-b
DATA-PATH=VOICE-PATH
MS
201

FIG.2

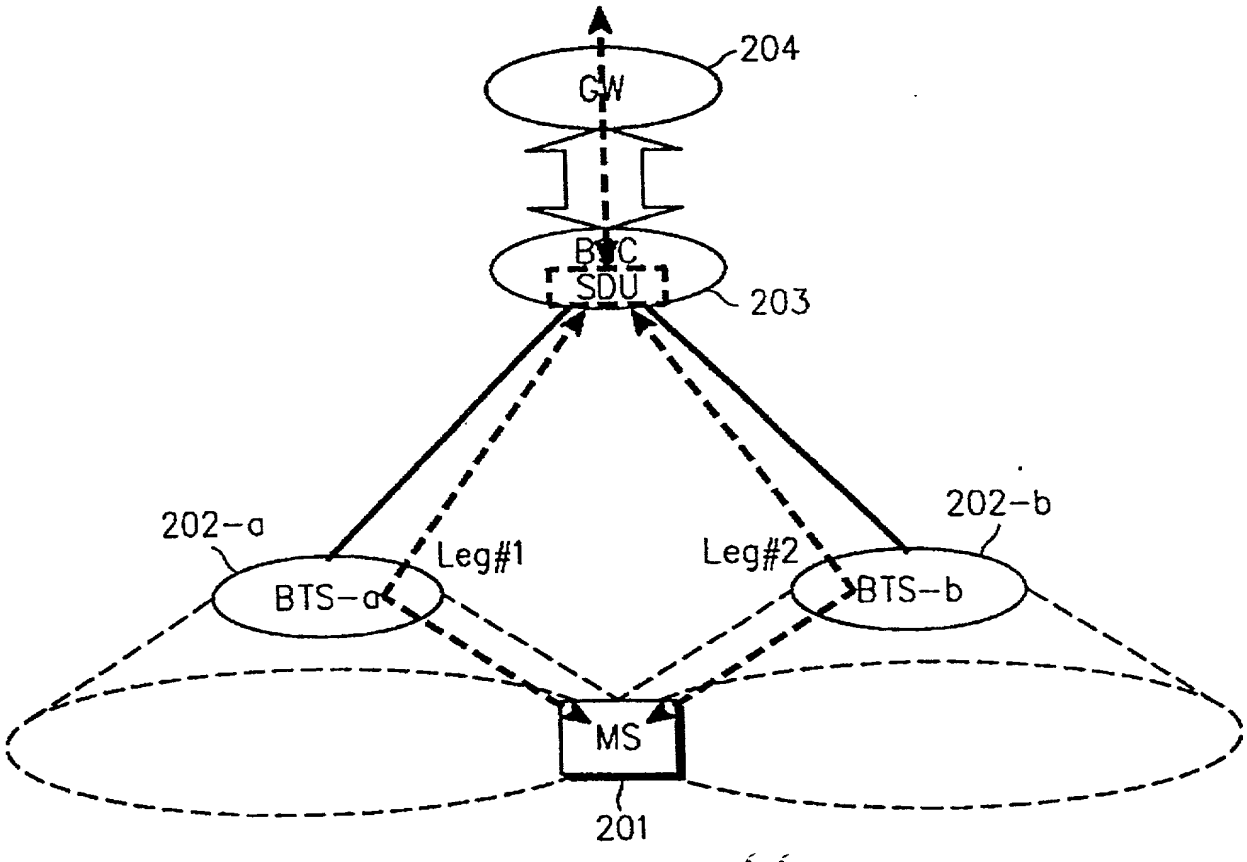

FIG.3
(PRIOR ART)

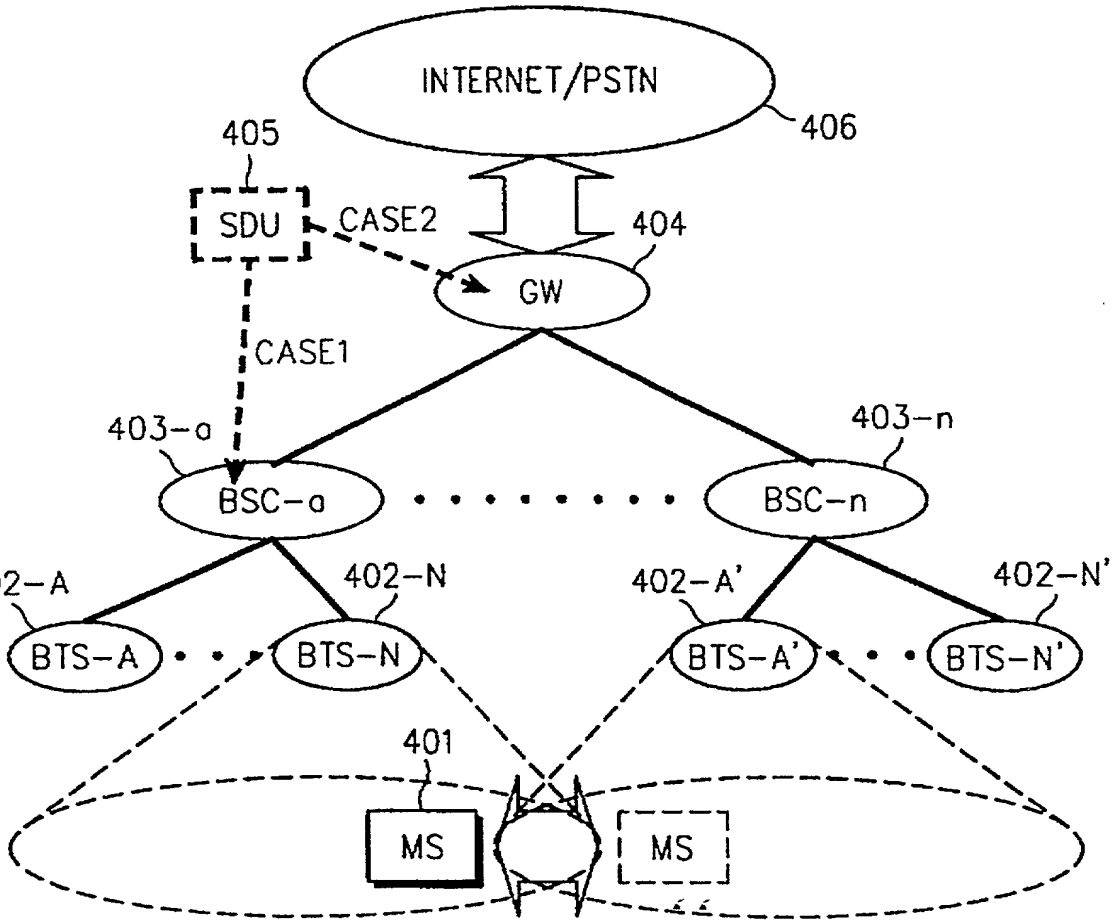

FIG.4

(PRIOR ART)

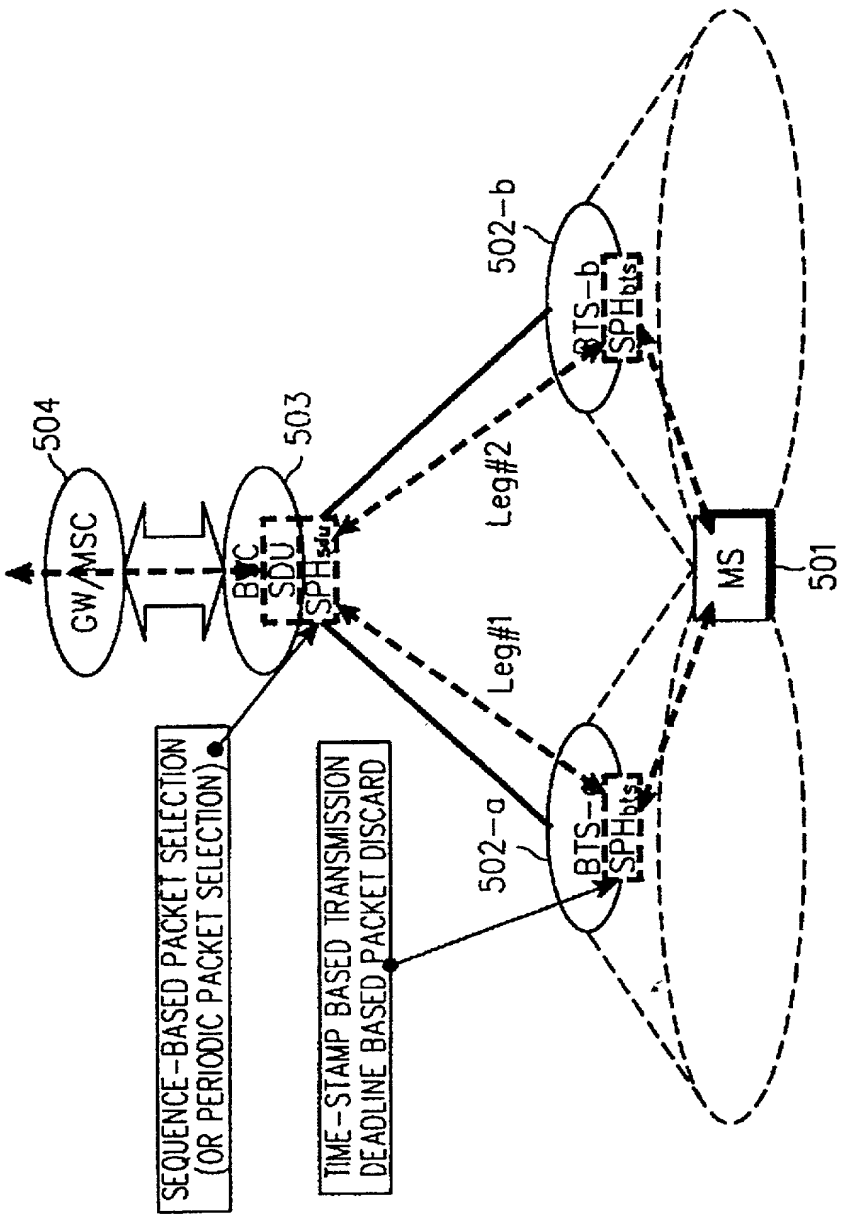
504
GW/MSC
503
BSC
SDU
SPH
502-b
BTS-b
SPH
Leg#2
Leg#1
MS
501
502-a
BTS-a
SPH
SEQUENCE-BASED PACKET SELECTION (OR PERIODIC PACKET SELECTION)
TIME-STAMP BASED TRANSMISSION DEADLINE BASED PACKET DISCARD

FIG.5

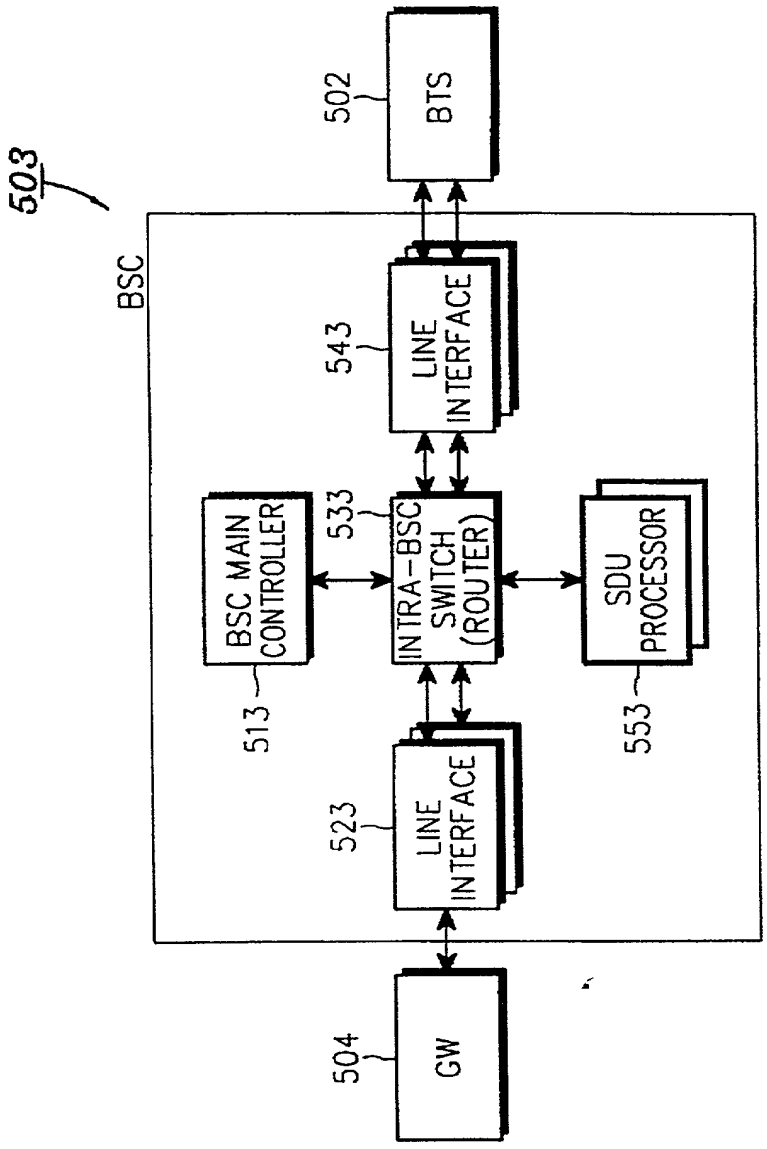
503
BSC
502
BTS
543
LINE INTERFACE
533
INTRA-BSC SWITCH (ROUTER)
513
BSC MAIN CONTROLLER
553
SDU PROCESSOR
523
LINE INTERFACE
504
GW

FIG. 6

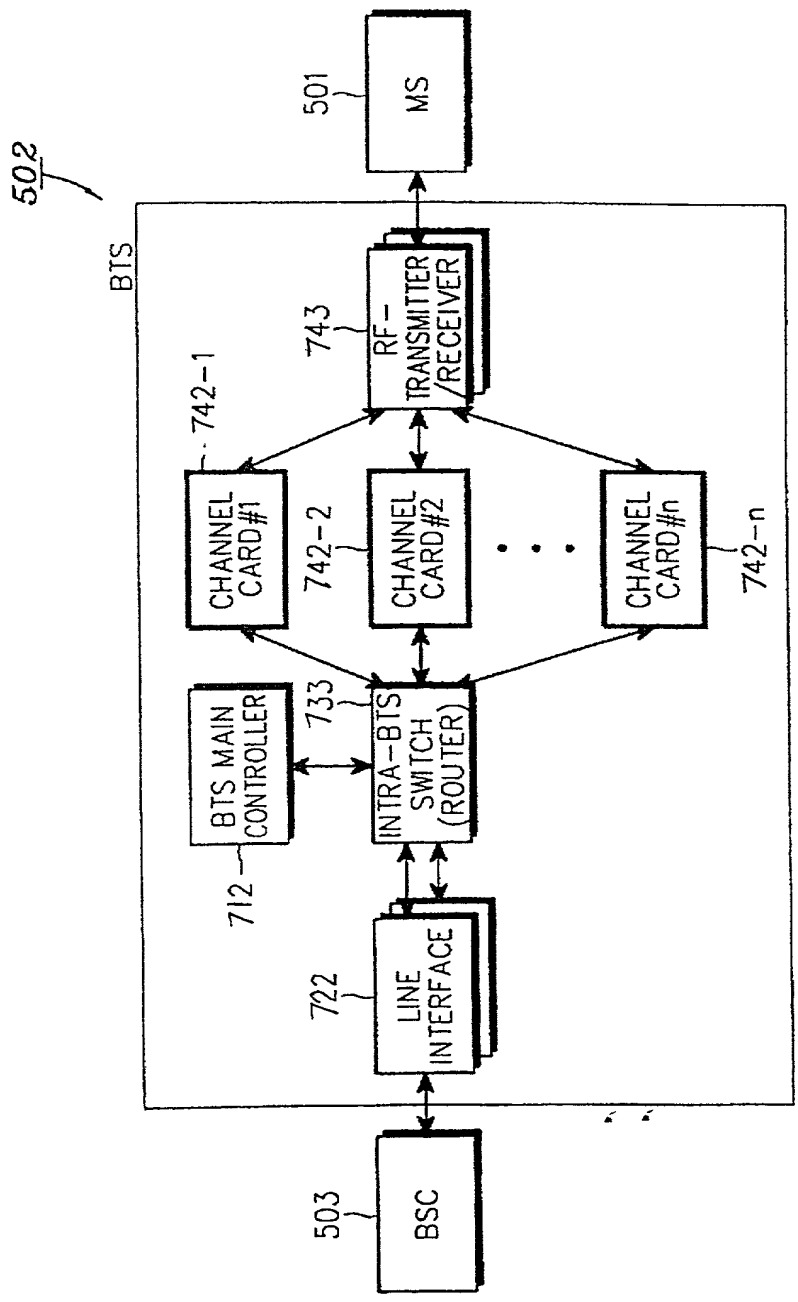
502
BTS
501
MS
743
RF-
TRANSMITTER
/RECEIVER
742-1
CHANNEL
CARD#1
742-2
CHANNEL
CARD#2
CHANNEL
CARD#n
742-n
733
INTRA-BTS
SWITCH
(ROUTER)
712
BTS MAIN
CONTROLLER
722
LINE
INTERFACE
503
BSC

FIG. 7

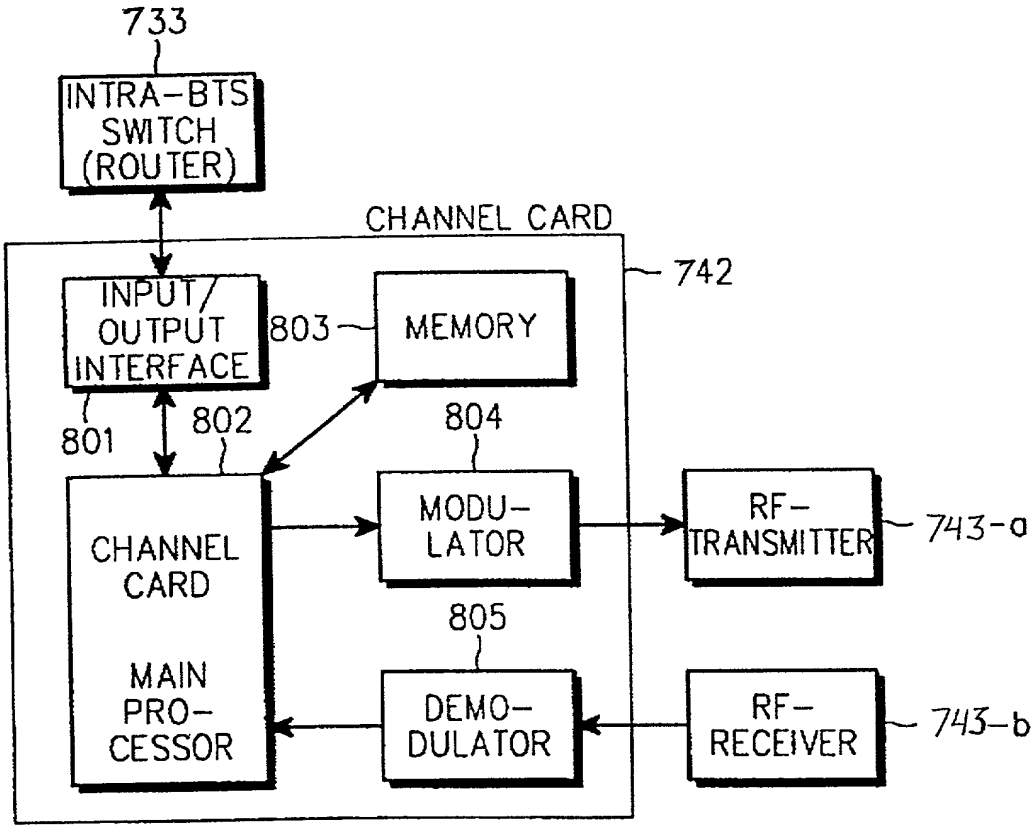
733
INTRA-BTS SWITCH (ROUTER)
CHANNEL CARD
742
INPUT/ OUTPUT INTERFACE
803
MEMORY
801
802
804
CHANNEL CARD
MODU-LATOR
RF-TRANSMITTER
743-a
805
MAIN PRO-CESSOR
DEMO-DULATOR
RF-RECEIVER
743-b

FIG.8

OPERATION MODE	F1	F2	F3	F4	F5	F6	RSVD
SEQUENCE SUPPORT	SF	SR	RSVD				
	NIL(0x00)						

FIG.9A

OPERATION MODE	F1	F2	F3	F4	F5	F6	RSVD
SEQUENCE SUPPORT	SF	SR	RSVD				

FIG.9B

OPERATION MODE	F1	F2	F3	F4	F5	F6	RSVD
SEQUENCE SUPPORT	SF	SR	RSVD				
TRAFFIC PERIOD	TRAFFIC PERIOD						
GAP-TIME	GAP-TIME(OPTIONAL)						

FIG.9C

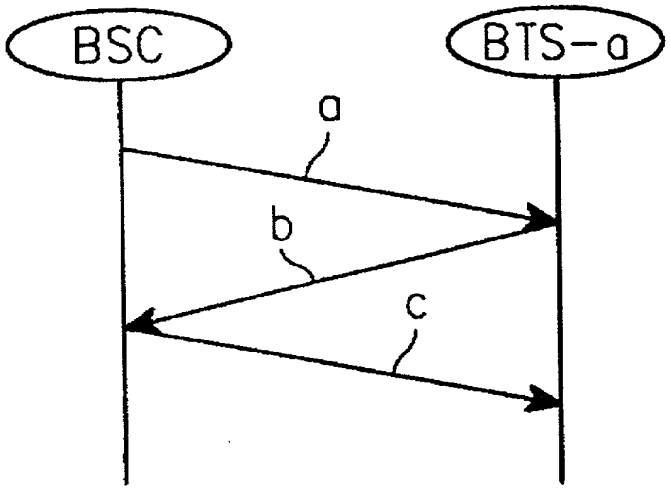

FIG. 10A

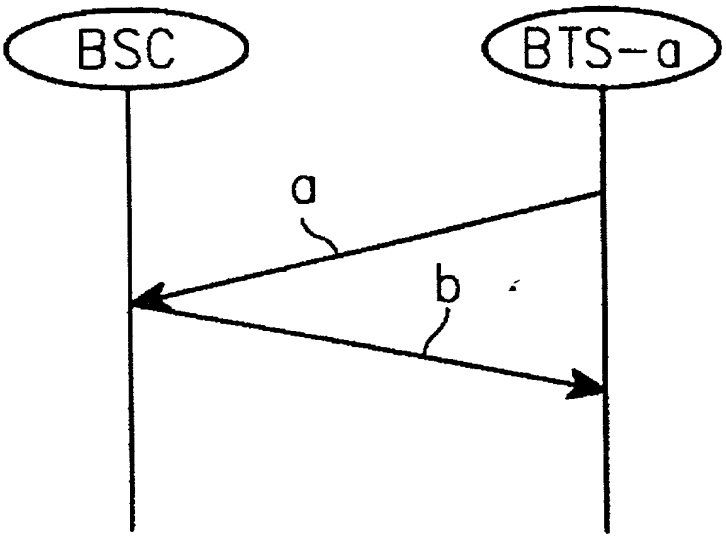

FIG. 10B

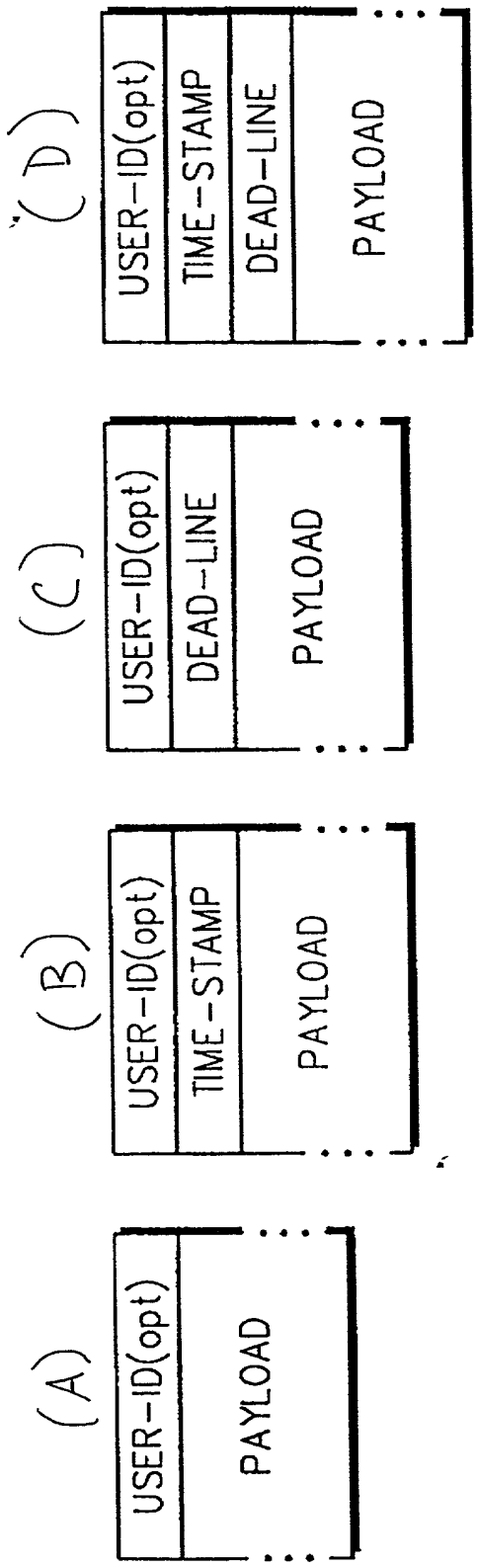
(A)
USER-ID(opt)
PAYLOAD
(B)
USER-ID(opt)
TIME-STAMP
PAYLOAD
(C)
USER-ID(opt)
DEAD-LINE
PAYLOAD
(D)
USER-ID(opt)
TIME-STAMP
DEAD-LINE
PAYLOAD

FIG.11

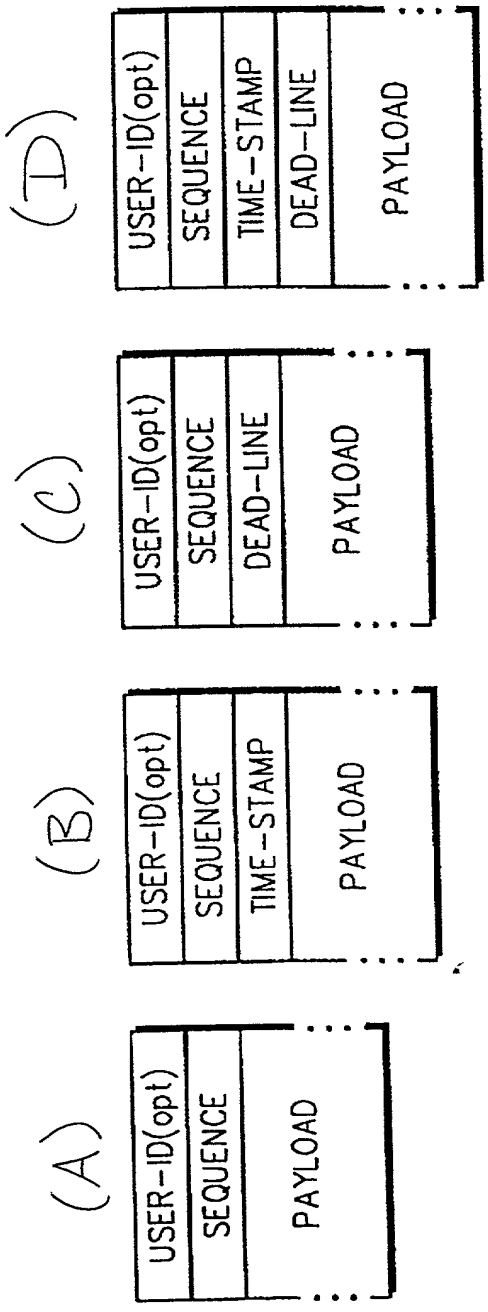
(A)
USER-ID(opt)
SEQUENCE
PAYLOAD
(B)
USER-ID(opt)
SEQUENCE
TIME-STAMP
PAYLOAD
(C)
USER-ID(opt)
SEQUENCE
DEAD-LINE
PAYLOAD
(D)
USER-ID(opt)
SEQUENCE
TIME-STAMP
DEAD-LINE
PAYLOAD

FIG. 12

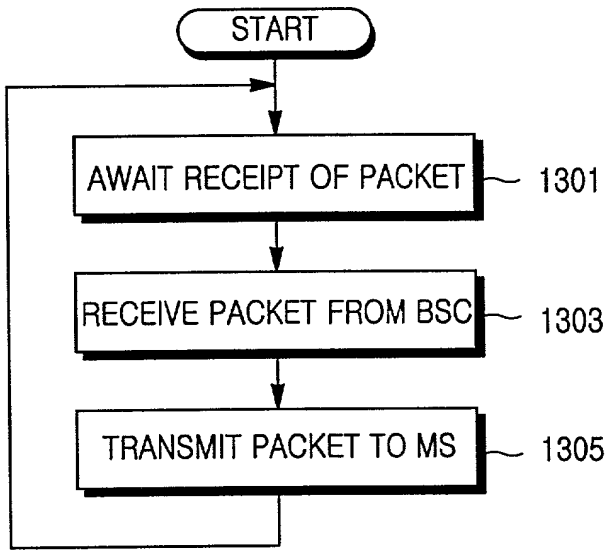
START
AWAIT RECEIPT OF PACKET
1301
RECEIVE PACKET FROM BSC
1303
TRANSMIT PACKET TO MS
1305

FIG. 13

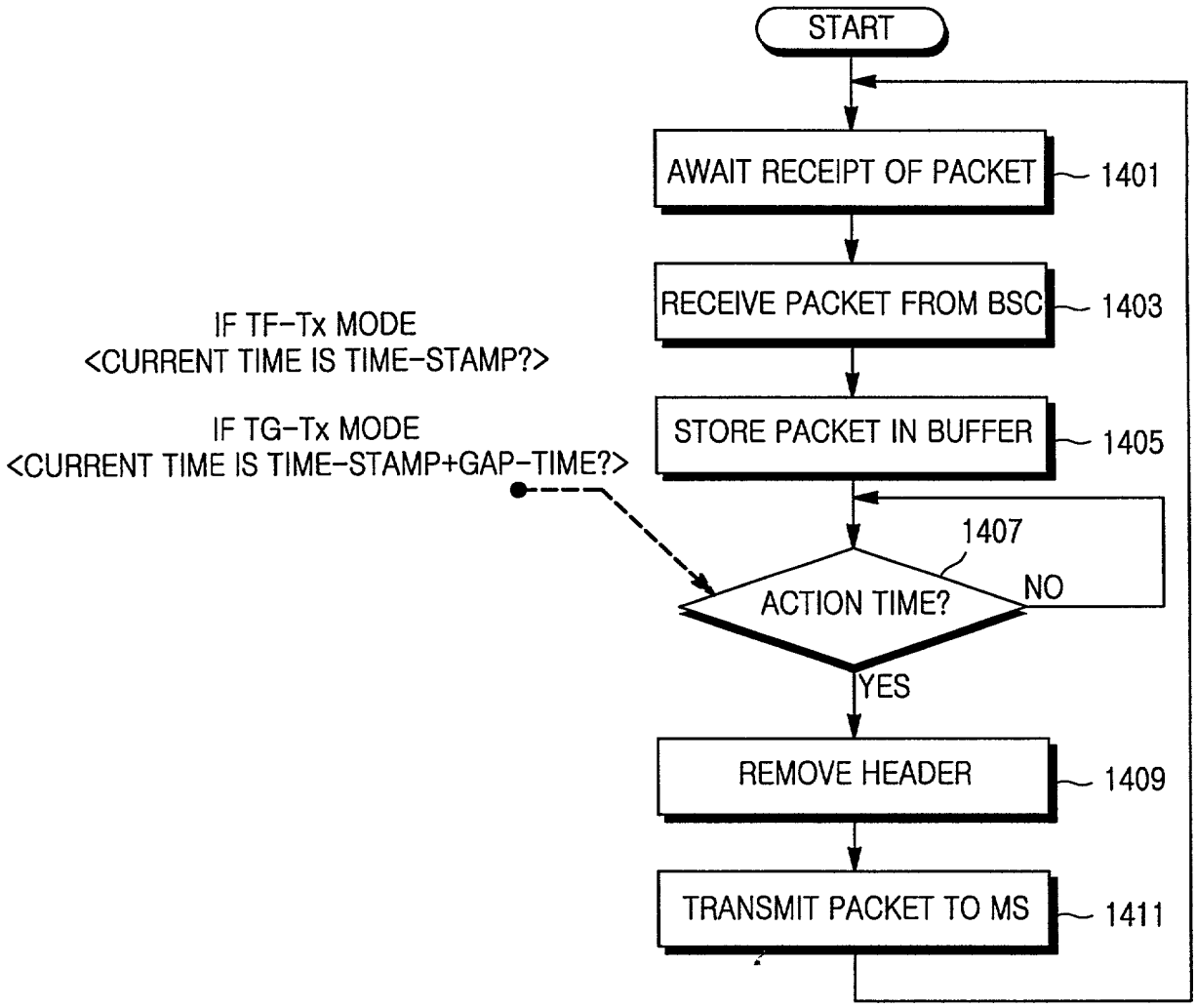
START
AWAIT RECEIPT OF PACKET
1401
RECEIVE PACKET FROM BSC
1403
STORE PACKET IN BUFFER
1405
1407
ACTION TIME?
NO
YES
REMOVE HEADER
1409
TRANSMIT PACKET TO MS
1411
IF TF-Tx MODE
<CURRENT TIME IS TIME-STAMP?>
IF TG-Tx MODE
<CURRENT TIME IS TIME-STAMP+GAP-TIME?>

FIG. 14

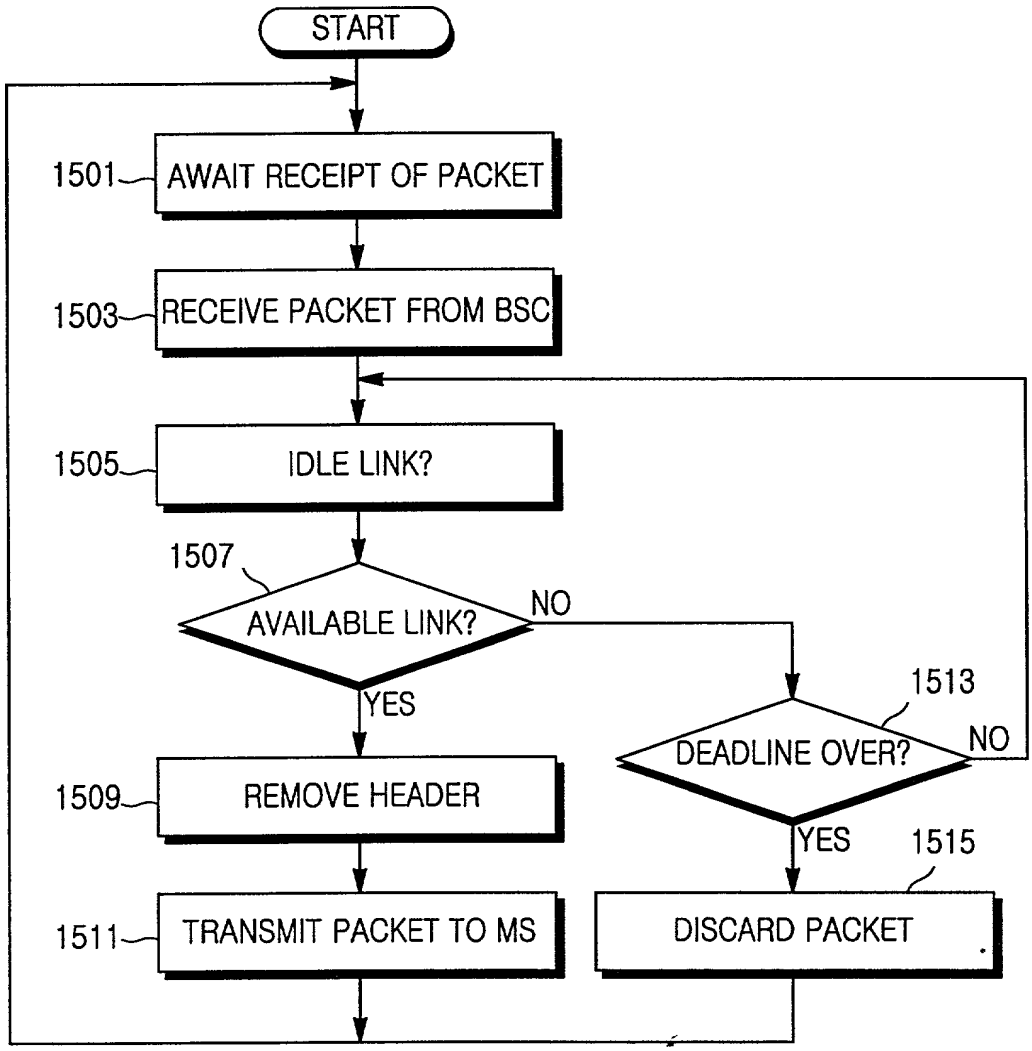
START
1501
AWAIT RECEIPT OF PACKET
1503
RECEIVE PACKET FROM BSC
1505
IDLE LINK?
1507
AVAILABLE LINK?
NO
YES
1513
DEADLINE OVER?
NO
YES
1509
REMOVE HEADER
1515
1511
TRANSMIT PACKET TO MS
DISCARD PACKET

FIG. 15

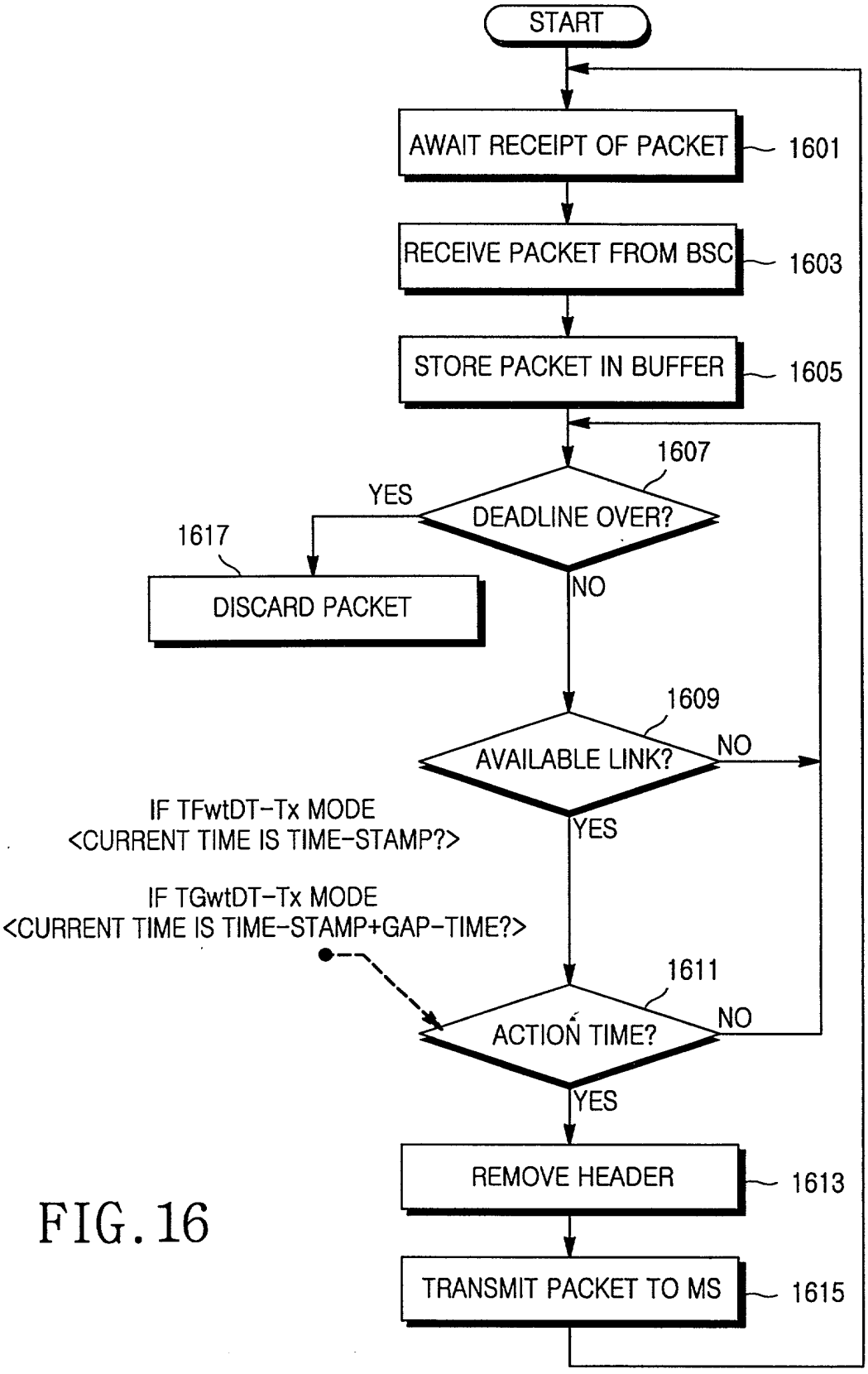
START
AWAIT RECEIPT OF PACKET
1601
RECEIVE PACKET FROM BSC
1603
STORE PACKET IN BUFFER
1605
1607
DEADLINE OVER?
YES
1617
DISCARD PACKET
NO
1609
AVAILABLE LINK?
NO
YES
IF TFwtDT-Tx MODE
<CURRENT TIME IS TIME-STAMP?>
IF TGwtDT-Tx MODE
<CURRENT TIME IS TIME-STAMP+GAP-TIME?>
1611
ACTION TIME?
NO
YES
REMOVE HEADER
1613
TRANSMIT PACKET TO MS
1615

FIG. 16

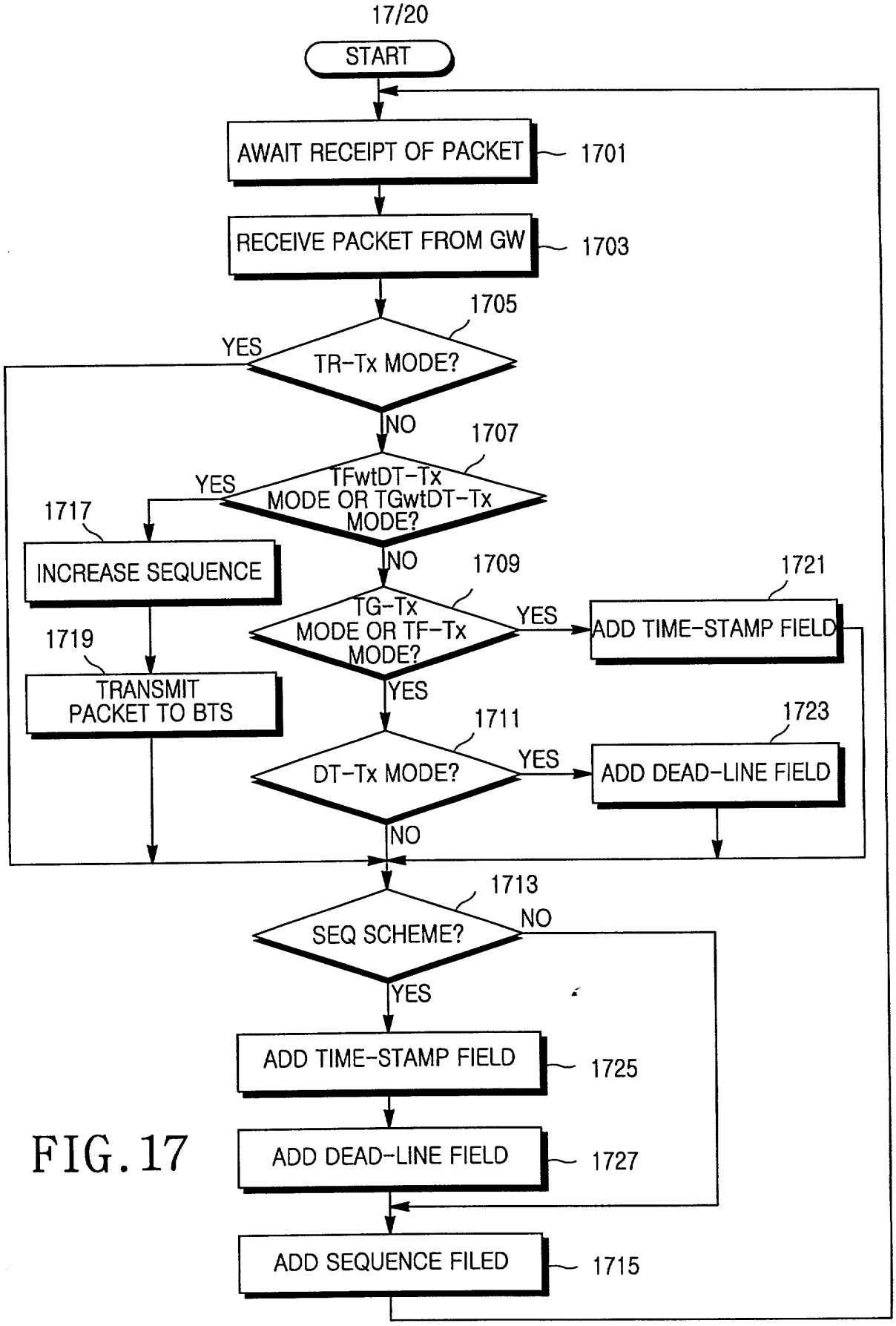
START
AWAIT RECEIPT OF PACKET
1701
RECEIVE PACKET FROM GW
1703
1705
TR-Tx MODE?
YES
NO
1707
TFwtDT-Tx MODE OR TGwtDT-Tx MODE?
YES
NO
1717
INCREASE SEQUENCE
1709
TG-Tx MODE OR TF-Tx MODE?
YES
1721
ADD TIME-STAMP FIELD
1719
TRANSMIT PACKET TO BTS
YES
1711
DT-Tx MODE?
YES
1723
ADD DEAD-LINE FIELD
NO
1713
SEQ SCHEME?
NO
YES
ADD TIME-STAMP FIELD
1725
ADD DEAD-LINE FIELD
1727
ADD SEQUENCE FILED
1715

FIG. 17

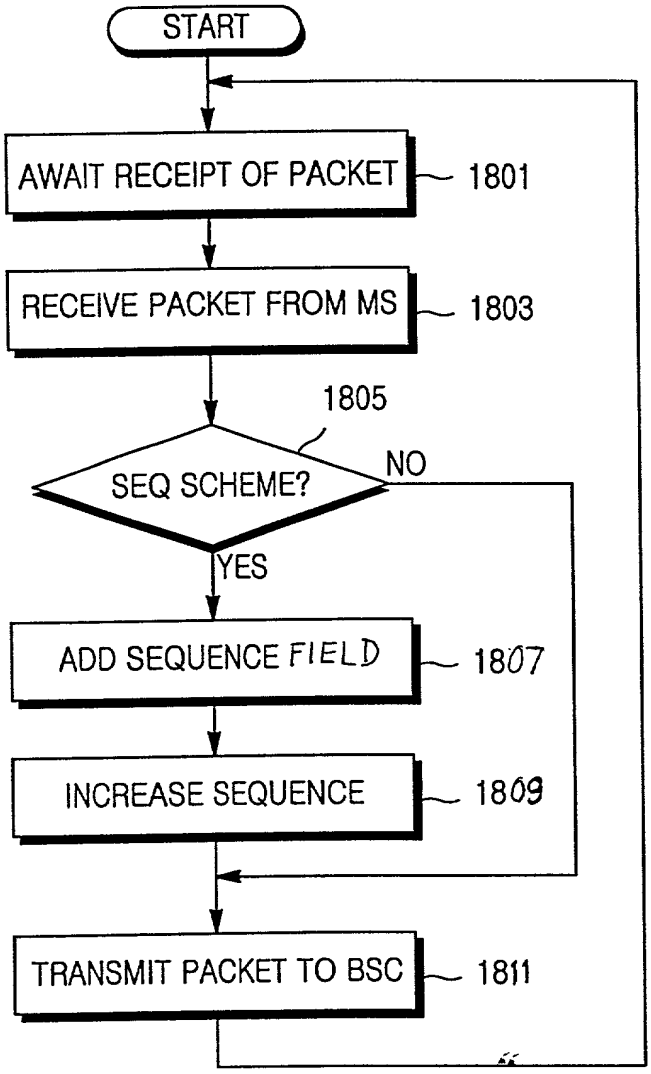
START
AWAIT RECEIPT OF PACKET
1801
RECEIVE PACKET FROM MS
1803
1805
SEQ SCHEME?
NO
YES
ADD SEQUENCE FIELD
1807
INCREASE SEQUENCE
1809
TRANSMIT PACKET TO BSC
1811

FIG. 18

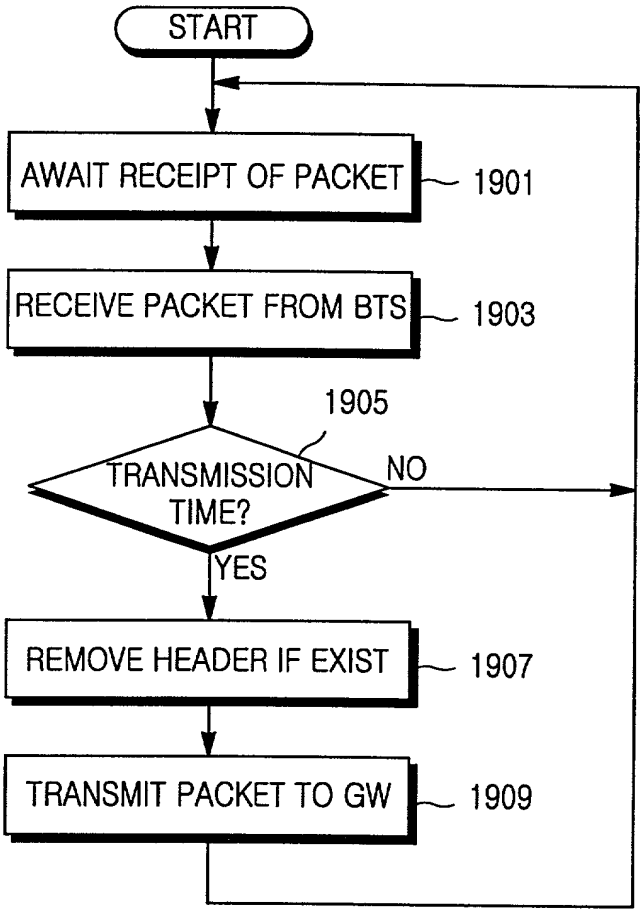
START
AWAIT RECEIPT OF PACKET
1901
RECEIVE PACKET FROM BTS
1903
1905
TRANSMISSION TIME?
NO
YES
REMOVE HEADER IF EXIST
1907
TRANSMIT PACKET TO GW
1909

FIG. 19

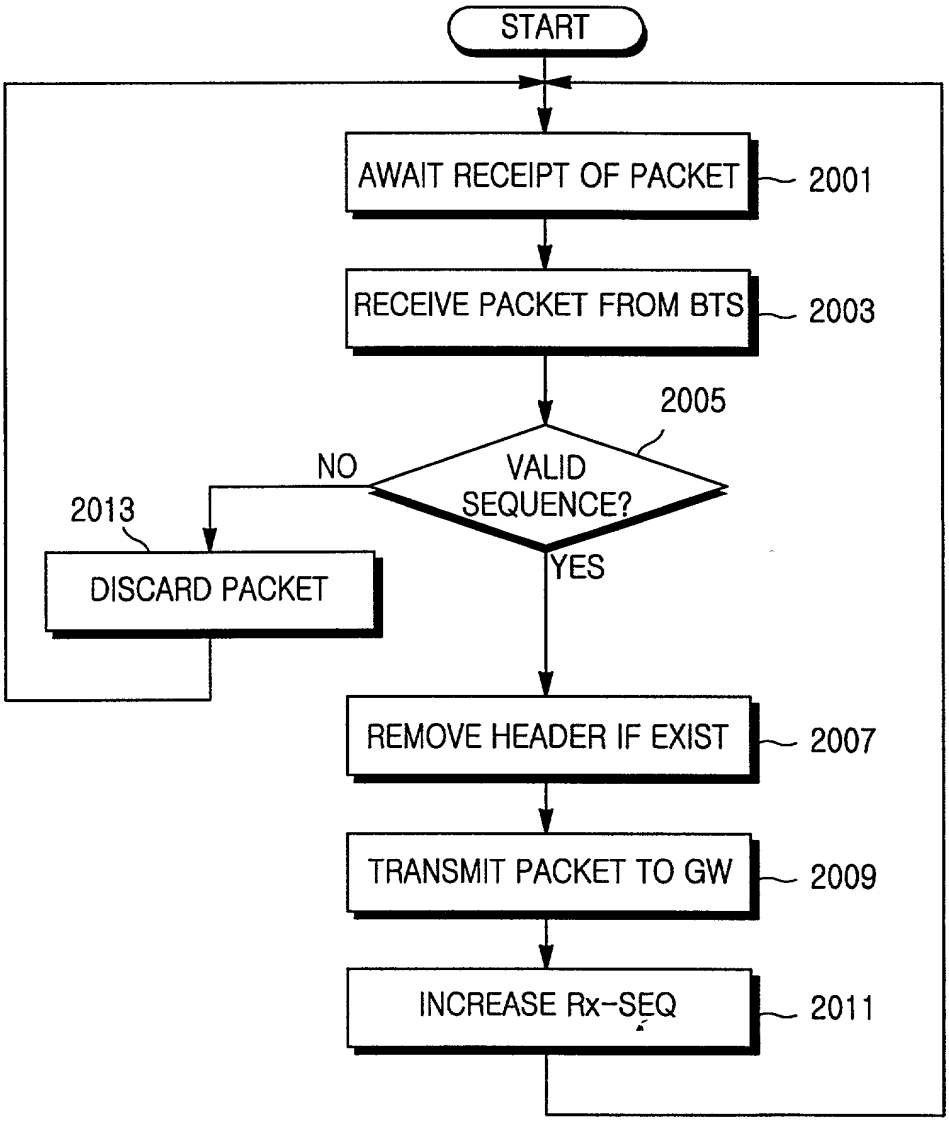
START
AWAIT RECEIPT OF PACKET
2001
RECEIVE PACKET FROM BTS
2003
2005
VALID SEQUENCE?
NO
YES
2013
DISCARD PACKET
REMOVE HEADER IF EXIST
2007
TRANSMIT PACKET TO GW
2009
INCREASE Rx-SEQ
2011

FIG.20